

WBS No: 1DAF01
Activity ID: 1DRRSRU105

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

WBS No: 1DAF01	Title: Remote Operating Size Reduction System											
Activity ID: 1DRRSRU105	Description: Remote Operating SRS - Proj Mant 4th Qtr	Cost Risk 4 Schedule Risk 5										
Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU1001	Project Management for RRSRU	1.00	each	EE	620	620	12.775	73.100	0	85.875	6.094	91.969
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.009	5.009	0	5.009
Total for Activity 1DRRSRU105:						620	12.775	73.100	5.009	90.884	6.094	96.977

Line Item RSRU1001 - Project Management for RRSRU

BOE	Estimators Experience - Randy Walker on previous conceptual engineering activities in B776/777 Experience Item Desc - Project Management for the robotic-SRU in B776/777 rm 127 Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - 10,800 hours, \$876,132 unburdened Unit Cost Adjustment factor - None Revised Unit Cost - 10,800 hours, \$876,132 unburdened Basis for adjustment - N/A
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	310.00	Hours
Factors	310	hours	1	full time RCT					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers		Linear	310.00	Hours
Factors	1	full time D&D workers	310	hours					
A52	TENERA	E040	ELECTRICAL ENGINEERS	K399S	Building 776 Project		Linear	10.200.00	Dollars
Factors	120	hours	85	dollars per hour Tenera	1	electrical engineer			
A52	TENERA	E070	MECHANICAL ENGINEERS	K399S	Building 776 Project		Linear	10.200.00	Dollars
Factors	1		1	mechanical engineer	120	hours	85	dollars per hour Tenera	
A52	TENERA	E130	OTHER ENGINEERS	K399S	Building 776 Project		Linear	26.350.00	Dollars
Factors	310	hours each	85	dollars per hour Tenera	1	Technical Support Person			
A52	TENERA	E130	OTHER ENGINEERS	K399S	Building 776 Project		Linear	26.350.00	Dollars
Factors	310	hours			1	Fire Protection Engineer/HVAC	85	dollars per hour Tenera	

Line Item SYS - Contingency And Escalation

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	3,074.68	Dollars
	Factors 3074.68 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	1,933.90	Dollars
	Factors 1933.9 Dollars									

Activity ID: 1DRRSRU115	Description: Remote Operating SRS - Facility Mods	Cost Risk 4 Schedule Risk 5										
Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU1101	IWCP Development for RR-SRU installation	1.00	each	VQ	0	0	0	134.400	0	134.400	0	134.400
RSRU1102	Floor Modifications	1.00	each	VQ	0	0	0	75.034	0	75.034	0	75.034
RSRU1103	Electrical Supply Modifications	1.00	each	VQ	0	0	0	27.178	0	27.178	0	27.178
RSRU1104	HVAC Modifications	1.00	each	VQ	0	0	0	223.945	0	223.945	0	223.945
RSRU1105	Perform Misc Modifications	1.00	each	VQ	0	0	0	53.550	0	53.550	0	53.550
RSRU1106	Lighting System Modifications	1.00	each	VQ	0	0	0	2.027	0	2.027	0	2.027
RSRU1107	Tank Wall Modifications	1.00	each	VQ	0	0	0	1.700	0	1.700	0	1.700
RSRU1108	Fire System Modifications	1.00	each	VQ	0	0	0	31.659	0	31.659	0	31.659
RSRU1110	Construction Management	1.00	each	VQ	0	0	0	231.852	0	231.852	0	231.852
RSRU1111	General Support/Equipment/Training/Bidding	1.00	each	VQ	0	0	0	179.377	0	179.377	0	179.377
RSRU1112	Known Change Orders	1.00	each	VQ	0	0	0	425.000	0	425.000	0	425.000
RSRU1113	Escorts	1.00	each	VQ	0	0	0	115.020	0	115.020	0	115.020
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	81.730	81.730	0	81.730

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Total for Activity 1DRRSRU115:

0	0	1,500.742	81.730	1,582.472	0	1,582.472
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Line Item RSRU1101 - IWCP Development for RR-SRU installation

BOE
Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	134,400.00	Dollars
Factors	21	IWCP Packages	80	Hours per IWCP Package	80	dollars per hour	January 2000 Earned Value Factor	

Line Item RSRU1102 - Floor Modifications

BOE
Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Cost Element		Skill		Department		Curve	Quantity	Units
A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	75,034.00	Dollars
Factors	75034	dollars						

Line Item RSRU1103 - Electrical Supply Modifications

BOE
Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Cost Element		Skill		Department		Curve	Quantity	Units
A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	27,178.00	Dollars
Factors	27178	dollars						

Line Item RSRU1104 - HVAC Modifications

BOE
Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Cost Element		Skill		Department		Curve	Quantity	Units
A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	223,945.00	Dollars
Factors	223945	Dollars						

Line Item RSRU1105 - Perform Misc Modifications

BOE
Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Cost Element		Skill		Department		Curve	Quantity	Units
A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	53,550.00	Dollars
Factors	53550	Dollars						

Line Item RSRU1106 - Lighting System Modifications

BOE
Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688

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Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	2.027.00	Dollars
Factors 2027 dollars									

Line Item RSRU1107 - Tank Wall Modifications

BOE Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	1.700.00	Dollars
Factors 1700 dollars									

Line Item RSRU1108 - Fire System Modifications

BOE Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	31.659.00	Dollars
Factors 31659 dollars									

Line Item RSRU1110 - Construction Management

BOE Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	231.852.00	Dollars
Factors 231852 dollars									

Line Item RSRU1111 - General Support/Equipment/Training/Badging

BOE Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5B	CONSTRUCTION	0000	NONE	K777C	Construction	Linear	179.377.00	Dollars
Factors 179377 Dollars									

Line Item RSRU1112 - Known Change Orders

BOE Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
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A5B	CONSTRUCTION	0000	NONE	K77TS	Construction I	Linear	425.000.00	Dollars
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Factors 425000 Change Orders for flooring

Line Item RSRU1113 - Escorts

BOE Vendor Name - RMRS Engineering
Vendor Quote - KRCR10-01 with K-H Revisions
Quote Received by - Jeff Woltmath x 2688
Item being quoted - ROSRS Facility Modifications
Other Info - Davis Bacon Quote as modified by K-H Project Manager
Availability - K-H Construction to perform the scope

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A56	WORLD WIDE SERVICES	0000	NONE	K399S	Building 776 Project	Linear	115,020.00	Dollars

Factors 6 Escorts 30 dollars per hour 9 hours per day 71 days

Line Item SYS - Contingency And Escalation

BOE									
Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	50.172.41	Dollars

Factors 50172.4 Dollars

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	31.557.25	Dollars
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Factors 31557.3 Dollars

Activity ID: 1DRRSRU150 Description: Remote Operating SRS - BIO Update

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU1501	BIO Revisions	1.00	each	EE	0	0	0	83.000	0	83.000	0	83.000
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4.092	4.092	0	4.092
Total for Activity 1DRRSRU150:						0	0	83.000	4.092	87.092	0	87.092

Line Item RSRU1501 - BIO Revisions

BOE Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - BIO Page Change for Installation Package and operation of the robotic system as designed and installed.
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$83k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$83k unburdened
Basis for adjustment - N/A

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	68,000.00	Dollars

Factors 40 hour per week 2 BIO Engineer 10 weeks
85 dollars per hour

A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	15.000.00	Dollars
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Factors 1 Procedure Writer 40 hours per week 75 dollars per hour
5 weeks

Line Item SYS - Contingency And Escalation

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	2,431.95	Dollars

Factors 2431.95 Dollars

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.659.75	Dollars
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Factors 1659.75 Dollars

Activity ID: 1DRRSRU160 Description: Remote Operating SRS - RFETS Procedure Develop

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU1601	Identify Work Steps	1.00	each	EE	378	378	7.770	0	0	7.770	3.706	11.477

WBS No: 1DAF01
Activity ID: 1DRRSRU160

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RSRU1602	Hazards Identification/JHA	1.00	each	EE	240	240	4,934	47,600	0	52,534	2,353	54,887
RSRU1603	Draft Operations Procedure	1.00	each	EE	0	0	0	18,135	0	18,135	0	18,135
RSRU1604	Review/Revise Operation Procedure	1.00	each	EE	0	0	0	8,775	0	8,775	0	8,775
RSRU1605	Prepare SES/USQD	1.00	each	EE	0	0	0	17,000	0	17,000	0	17,000
RSRU1606	Finalize Procedures	1.00	each	EE	0	0	0	7,605	0	7,605	0	7,605
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	6,420	6,420	0	6,420
Total for Activity 1DRRSRU160:						618	12,704	99,115	6,420	118,239	6,060	124,298

Line Item RSRU1601 - Identify Work Steps

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 378 hrs, \$8k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 378 hrs, \$8k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	126.00	Hours
Factors	9 hours per day	1	RCT	14	days			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	252.00	Hours
Factors	2 D&D Workers	14	days	9	hours each per day			

Line Item RSRU1602 - Hazards Identification/JHA

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Job Hazard Analysis
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 240 hrs, \$53k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 240 hrs, \$53k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	80.00	Hours
Factors	1 RCT	8	hours per day	10	days			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	160.00	Hours
Factors	8 hours per day each	10	working days	2	D&D Workers			
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	34,000.00	Dollars
Factors	40 hours per week	85	dollars per hour	1	Criticality Safety Engineers	10	weeks each	CSOL development
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	6,800.00	Dollars
Factors	85 dollars per hour	1	Nuclear Safety Engineer	2	weeks review nuclear hazard controls			
40	hours per week							
A52	TENERA	P090	INDUSTRIAL HYGIENISTS	K399S	Building 776 Project	Linear	6,800.00	Dollars
Factors	1 Industrial Hygenist	8	hours per day	10	days	85	dollars per hour	

Line Item RSRU1603 - Draft Operations Procedure

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$18k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$18k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
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A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	18,135.00	Dollars
Factors	65 dollars per hour 31 working days			1	procedure writer	9	hours per day	

Line Item RSRU1604 - Review/Revise Operation Procedure

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$9k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$9k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	8,775.00	Dollars
Factors	9 hours per day 1 Procedure Writer		65 dollars per hour			15	working days	

Line Item RSRU1605 - Prepare SES/USQD

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$17k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$17k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	17,000.00	Dollars
Factors	5 weeks		85 dollars per hour		40 hours	1	Nuclear Engineer	

Line Item RSRU1606 - Finalize Procedures

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$8k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$8k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	7,605.00	Dollars
Factors	1 Procedure Writer 65 dollars per hour		13 working days			9	hours per day	

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3,940.89	Dollars
Factors	3940.9 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2,478.73	Dollars
Factors	2478.73 Dollars							

Activity ID: 1DRRSRU170 Description: Remote Operating SRS - RFETS Training

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU1701	Develop Certification Requirements	1.00	each	EE	0	0	0	7,605	0	7,605	0	7,605

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RSRU1702	Training for Remote Robotic SRU	1.00	each	EE	1.920	1.920	39,469	0	0	39,469	18,827	58,295
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3,589	3,589	0	3,589
Total for Activity 1DRRSRU170:					1.920	1.920	39,469	7,605	3,589	50,663	18,827	69,489

Line Item RSRU1701 - Develop Certification Requirements

BOE
Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Develop Certification Requirements for Training operators to run the HS-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$7k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$7k unburdened
Basis for adjustment - N/A

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	P150	TRAINERS	K399S	Building 776 Project	Linear	7,605.00	Dollars
Factors	1	Trainer	9	hours per day	13	working days	65	dollars per hour

Line Item RSRU1702 - Training for Remote Robotic SRU

BOE
Estimators Experience - Randy Walker based on experience from training to procedures in B776/777
Experience Item Desc - Training for SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 1920 hours, \$40k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 1920 hours, \$40k unburdened
Basis for adjustment - N/A

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KD10H	776 Complex Steelworkers	Linear	640.00	Hours
Factors	2	RCTs	40	hours each to train on the operation	8	weeks		
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	1,280.00	Hours
Factors	4	Craft Personnel	40	hours each to train on operation of	8	weeks		

Line Item SYS - Contingency And Escalation

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,203.17	Dollars
Factors	2203.17	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,385.74	Dollars
Factors	1385.74	Dollars						

Activity ID: 1DRRSRU180 Description: Remote Operating SRS -Phs IV Startup in B776/777

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU1801	Readiness Demonstration Preparation	1.00	each	EE	0	0	0	14,000	0	14,000	0	14,000
RSRU1806	Perform Hot Start Management Review	1.00	each	EE	0	0	0	20,000	0	20,000	0	20,000
RSRU1809	Perform Independent Validation Review	1.00	each	EE	0	0	0	20,000	0	20,000	0	20,000
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8,331	8,331	0	8,331
Total for Activity 1DRRSRU180:						0	0	54,000	8,331	62,331	0	62,331

Line Item RSRU1801 - Readiness Demonstration Preparation

BOE
Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777
Experience Item Desc - Perform Readiness Demonstration preparation activities for RR-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$14k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$14k unburdened

WBS No: 1DAF01
Activity ID: 1DRRSRU180

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter * Starts In FY *

Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	K399S	Building 776 Project	Linear	14,000.00	Dollars
Factors	40	hours to conduct management review	35	dollars per hour		1	Admimmistrative Assistant	
	10	weeks						

Line Item RSRU1806 - Perform Hot Start Management Review

BOE

Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777
Experience Item Desc - Perform Readiness Demonstration for RR-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$20k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$20k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	20,000.00	Dollars
Factors	100	dollars per hour	5	subcontracted evaluators	40	hours per week		
	1	week each						

Line Item RSRU1809 - Perform Independent Validation Review

BOE

Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777
Experience Item Desc - Perform IVR for RR-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$20k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$20k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	20,000.00	Dollars
Factors	1	week each	100	dollars per hour	5	Subcontracted Evaluators	40	hours

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	5,807.36	Dollars
Factors	5807.36	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2,523.50	Dollars
Factors	2523.5	Dollars						

Activity ID: 1DRRSRU200 Description: FY01 Remote Operating SRS Maintenance

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU200	FY-01 Remote Robotic SRU Maintenance	1.00	each	EE	25,344	25,344	611,217	447,850	0	1,059,067	215,759	1,274,826
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	196,674	196,674	0	196,674
Total for Activity 1DRRSRU200:						25,344	611,217	447,850	196,674	1,255,741	215,759	1,471,500

Line Item RSRU200 - FY-01 Remote Robotic SRU Maintenance

BOE

ROSRS operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Estimators Experience - Maintenance Requirements for such items as the supercompactor and the ASRF.
Experience Item Desc - Maintenance on the RRSRU
Breakdown of Cost Data:

WBS No: 1DAF01
Activity ID: 1DRRSRU200

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

Item - 1
Units - lot
Unit Cost - \$ 250,000
Unit Cost Adjustment factor - none
Revised Unit Cost - \$ 250,000
Basis for adjustment - N/A

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	1.728.00	Hours
Factors	1 Foreman		9 hours		192 days			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KD10H	776 Complex Steelworkers	Linear	3.456.00	Hours
Factors	2 RCTs		9 hours		192 days			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	6.912.00	Hours
Factors	4 D&D Skilled Workers		9 hours		192 days			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	6.912.00	Hours
Factors	4 D&D Hazardous Reduction		9 hours		192 days			
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	576.00	Hours
Factors	1 Foreman		3 hours		192 days			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KD10H	776 Complex Steelworkers	Linear	1.152.00	Hours
Factors	2 total RCT hours		3 hours		192 days			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	4.608.00	Hours
Factors	8 total D&D workers hours		3 hours		192 days			
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	197.850.00	Dollars
Factors	1319000 Operational cost		0.15 15% supplies					
A5H	SUBCONTRACTED SRVS	0000	NONE	K399S	Building 776 Project	Linear	250.000.00	Dollars
Factors	250000 Maintenance on the RRSRU							

Line Item SYS - Contingency And Escalation

BOE

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	137.099.50	Dollars
Factors	137100 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	59.574.46	Dollars
Factors	59574.5 Dollars							

Activity ID: 1DRRSRU300 Description: FY02 Remote Operating SRS Maintenance

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU200	FY-02 Remote Robotic SRU Maintenance	1.00	each	EE	25.344	25.344	611.217	450.250	0	1.061.467	213.771	1.275.238
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	256.998	256.998	0	256.998
Total for Activity 1DRRSRU300:						25.344	611.217	450.250	256.998	1.318.465	213.771	1.532.236

Line Item RSRU200 - FY-02 Remote Robotic SRU Maintenance

BOE

ROSRS operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Estimators Experience - Maintenance Requirements for such items as the supercompactor and the ASRF.
Experience Item Desc - Maintenance on the RRSRU
Breakdown of Cost Data:
Item - 1
Units - lot
Unit Cost - \$ 250,000
Unit Cost Adjustment factor - none
Revised Unit Cost - \$ 250,000
Basis for adjustment - N/A

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
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WBS No: 1DAF01
Activity ID: 1DRRSRU300

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project
WBS Filter
Activity Filter
Baseline Devl
1DAF
*

Starts In FY *

750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	1,728.00	Hours
Factors	1 Foreman		9 hours		192 days			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	3,456.00	Hours
Factors	2 RCTs		9 hours		192 days			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	6,912.00	Hours
Factors	4 D&D Skilled Workers		9 hours		192 days			
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	6,912.00	Hours
Factors	4 D&D Hazardous Reduction		9 hours		192 days			
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	576.00	Hours
Factors	1 Foreman		3 hours		192 days			
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	1,152.00	Hours
Factors	2 total RCT hours		3 hours		192 days			
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	4,608.00	Hours
Factors	8 total D&D workers hours		3 hours		192 days			
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	200,250.00	Dollars
Factors	1335000 Operational cost		0.15 15% supplies					
A5H	SUBCONTRACTED SRVS	0000	NONE	K399S	Building 776 Project	Linear	250,000.00	Dollars
Factors	250000 Maintenance on the RRSRU							

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element	Skill	Department	Curve	Quantity	Units
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	179,682.50	Dollars
Factors	179683 Dollars				
ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	77,315.91	Dollars
Factors	77315.9 Dollars				

Activity ID: 1DRRSRU400 Description: FY03 Remote Operating SRS Maintenance

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
RSRU200	FY-03 Remote Robotic SRU Maintenance	1.00	each	EE	25,344	25,344	611,217	457,150	0	1,068,367	185,540	1,253,906
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	251,727	251,727	0	251,727
Total for Activity 1DRRSRU400:						25,344	611,217	457,150	251,727	1,320,094	185,540	1,505,634

Line Item RSRU200 - FY-03 Remote Robotic SRU Maintenance

BOE

ROSRS operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Estimators Experience - Maintenance Requirements for such items as the supercompactor and the ASRF.
Experience Item Desc - Maintenance on the RRSRU
Breakdown of Cost Data:
Item - 1
Units - lot
Unit Cost - \$ 250,000
Unit Cost Adjustment factor - none
Revised Unit Cost - \$ 250,000
Basis for adjustment - N/A

Resources

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	1,728.00	Hours
Factors	1 Foreman				
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLOGI	KD10H 776 Complex Steelworkers	Linear	3,456.00	Hours
Factors	2 RCTs				
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED	KD10H 776 Complex Steelworkers	Linear	6,912.00	Hours
Factors	4 D&D Skilled Workers				

WBS No: 1DAF01
Activity ID: 1DRRSRU400

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	6,912.00	Hours
Factors	4	D&D Hazardous Reduction	9	hours	192	days		
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	576.00	Hours
Factors	1	Foreman	3	hours	192	days		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KD10H	776 Complex Steelworkers	Linear	1,152.00	Hours
Factors	2	total RCT hours	3	hours	192	days		
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	4,608.00	Hours
Factors	8	total D&D workers hours	3	hours	192	days		
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	207,150.00	Dollars
Factors	1381000	Operational cost	0.15	15% supplies				
A5H	SUBCONTRACTED SRVS	0000	NONE	K399S	Building 776 Project	Linear	250,000.00	Dollars
Factors	250000	Maintenance on the RRSRU						

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	139,665.70	Dollars
Factors	139666 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	112,061.70	Dollars
Factors	112062 Dollars							

WBS No: 1DAF02 Title: Inter-Tent Dismantlement Chamber

Activity ID: 1DSBIRD105 Description: B776/777 Hard Side SRU (ITC) Project Mgmt

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
BIRD1001	Project Management for HSSRU	1.00	each	EE	0	0	0	107,936	0	107,936	0	107,936
Total for Activity 1DSBIRD105:						0	0	107,936	0	107,936	0	107,936

Line Item BIRD1001 - Project Management for HSSRU

BOE

Estimators Experience - Randy Walker on previous conceptual engineering activities in B776/777
Experience Item Desc - Project Management for Hard Sided-SRU in B776/777 rm 430
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$145,480
Unit Cost Adjustment factor - None
Revised Unit Cost - \$145,480
Basis for adjustment - N/A

Resources

Cost Element			Skill		Department		Curve	Quantity	Units		
A52	TENERA		E040	ELECTRICAL ENGINEERS		K399S	Building 776 Project		Linear	17,680.00	Dollars
Factors	1	electrical engineer	8	hours per day		26	working days		85	dollars per hour Tenera	
A52	TENERA		E070	MECHANICAL ENGINEERS		K399S	Building 776 Project		Linear	17,680.00	Dollars
Factors	26	working days	85	dollars per hour Tenera		1	mechanical engineer		8	hours per day	
A52	TENERA		E130	OTHER ENGINEERS		K399S	Building 776 Project		Linear	57,600.00	Dollars
Factors	1	Technical Support Person	5	days per week		72	dollars per hour Tenera		8	AWS working days	
	20	weeks total in FY-00									
A52	TENERA		E130	OTHER ENGINEERS		K399S	Building 776 Project		Linear	14,976.00	Dollars
Factors	1	Fire Protection Engineer/HVAC	26	working days		8	hours per day		72	dollars per hour Tenera	

Activity ID: 1DSBIRD130 Description: B776/777 Hard Side SRU Facility Modifications

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
BIRD1301	IWCP Development for HS-SRU installation	1.00	each	EE	152	152	3,288	41,230	0	44,518	1,604	46,122
BIRD1302	Floor Modifications	1.00	each	EE	76	76	1,577	17,100	0	18,677	770	19,447
BIRD1303	Electrical Supply Modifications	1.00	each	EE	304	304	6,442	9,500	0	15,942	3,144	19,085
BIRD1304	HVAC Modifications	1.00	each	EE	152	152	3,154	24,700	0	27,854	1,539	29,393
BIRD1305	Perform Misc Modifications	1.00	each	EE	304	304	6,308	39,900	0	46,208	3,078	49,286

WBS No: 1DAF02
Activity ID: 1DSBIRD130

Rocky Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

Total for Activity 1DSBIRD130:

988	20,769	132,430	0	153,199	10,135	163,334
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Line Item BIRD1301 - IWCP Development for HS-SRU installation

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - IWCP Development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 160 hours, \$47k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - 160 hours, \$47k unburdened
Basis for adjustment -N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	C211S	Electrical Maintenance	Linear	76.00	Hours
Factors	2	Craft support	40	hours each	0.95	January 2000 Earned Value Factor		
750	STRAIGHT TIME BASE	C020	ELECTRICIANS	C211S	Electrical Maintenance	Linear	76.00	Hours
Factors	2	Electricians	40	hours each	0.95	January 2000 Earned Value Factor		
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	16,150.00	Dollars
Factors	200	hours 80 nuc safety and 120 hrs crit	85	dollars per hour TENERA	0.95	January 2000 Earned Value Factor		
A52	TENERA	P070	COST ESTIMATORS PLANNERS AN	K399S	Building 776 Project	Linear	14,820.00	Dollars
Factors	1	IWCP Planner	40	hours per week	6	weeks	65	dollars per hour TENERA
			0.95	January 2000 Earned Value Factor				
A52	TENERA	P090	INDUSTRIAL HYGIENISTS	K399S	Building 776 Project	Linear	6,460.00	Dollars
Factors	80	hours	85	dollars per hour	0.95	January 2000 Earned Value Factor		
A5H	SUBCONTRACTED SRVS	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	3,800.00	Dollars
Factors	40	hours each	2	D&D Craft	50	dollars per hour		
			0.95	January 2000 Earned Value Factor				

Line Item BIRD1302 - Floor Modifications

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - Implement IWCP Modification Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 80 hours, \$20k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 80 hours, \$20k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	76.00	Hours
Factors	2	RCTs	40	hours each RCT support	0.95	January 2000 Earned Value Factor		
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	9,500.00	Dollars
Factors	1		10000	misc supplies and equipment for	0.95	January 2000 Earned Value Factor		
A5H	SUBCONTRACTED SRVS	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	7,600.00	Dollars
Factors	1		40	hours each	4	D&D Craft	50	dollars per hour
			0.95	January 2000 Earned Value Factor				

Line Item BIRD1303 - Electrical Supply Modifications

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - Implement IWCP Modification Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 320 hours, \$17k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 320 hours, \$17k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
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WBS No: 1DAF02
Activity ID: 1DSBIRD130

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project
WBS Filter
Activity Filter
Baseline Devl
1DAF
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Starts In FY *

750	STRAIGHT TIME BASE	C020	ELECTRICIANS	C211S	Electrical Maintenance	Linear	152.00	Hours
Factors	2	electricians	2	weeks each	40	hours per week	0.95	January 2000 Earned Value Factor
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	152.00	Hours
Factors	2	RCTs	2	weeks each	40	hours each week	0.95	January 2000 Earned Value Factor
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	9.500.00	Dollars
Factors	1		10000	supplies and equipment	0.95	January 2000 Earned Value Factor		

Line Item BIRD1304 - HVAC Modifications

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - Implement IWCP Modification Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 160 hours, \$29k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 160 hours, \$29k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	152.00	Hours
Factors	2	weeks each	2	RCTs	40	hours per week	0.95	January 2000 Earned Value Factor
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	9.500.00	Dollars
Factors	1		10000	dollars supplies and equipment	0.95	January 2000 Earned Value Factor		
A5H	SUBCONTRACTED SRVS	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	15.200.00	Dollars
Factors	1		4	D&D Craft Support	2	weeks each	40	hours per week
	50	dollars per hour	0.95	January 2000 Earned Value Factor				

Line Item BIRD1305 - Perform Misc Modifications

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - Implement IWCP Modification Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 320 hours, \$49k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 320 hours, \$49k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	304.00	Hours
Factors	40	hours per week	2	RCTs	4	weeks each	0.95	January 2000 Earned Value Factor
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	9.500.00	Dollars
Factors	1		10000	supplies and equipment	0.95	January 2000 Earned Value Factor		
A5H	SUBCONTRACTED SRVS	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	30.400.00	Dollars
Factors	1		40	hours each per week	50	dollars per hour	4	D&D Workers
	4	weeks	0.95	January 2000 Earned Value Factor				

Activity ID: 1DSBIRD140 Description: B776/777 Hard Side SRU (ITC) Procure/Install

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
BIRD1401	Procure Hard side-SRU	1.00	each	EE	0	0	0	850.000	0	850.000	0	850.000
Total for Activity 1DSBIRD140:						0	0	850.000	0	850.000	0	850.000

Line Item BIRD1401 - Procure Hard side-SRU

BOE

Estimators Experience - Randy Walker estimate based on Phase I birdcage procurement in B771/774
Experience Item Desc - Procure Phase I Birdcage in B771/774
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$250k
Unit Cost Adjustment factor None
Revised Unit Cost - \$250k

WBS No: 1DAF02
Activity ID: 1DSBIRD140

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter * Starts In FY *

Basis for adjustment - N/A

Resources	Cost Element		Skill		Department		Curve	Quantity	Units							
	A5B	CONSTRUCTION	0000	NONE	K399S	Building 776 Project	Max Backload	850,000.00	Dollars							
Factors		1	lot includes air handlers, arms		1	Hard Side Size Reduction Unit		850000	Estimated from preliminary B771/774							
Activity ID:	1DSBIRD145	Description: B776/777 Hard Side SRU (ITC) BIO Update					Cost Risk	4	Schedule Risk	5						
Line Item	Description				Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost	
BIRD1451	BIO Revisions				1.00	each	EE	0	0	0	13.800	0	13.800	0	13.800	
Total for Activity 1DSBIRD145:									0	0	0	13.800	0	13.800	0	13.800

Line Item BIRD1451 - BIO Revisions

BOE
Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - BIO Page Change for Installation and operation Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$23k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$23k unburdened
Basis for adjustment - N/A

Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	A52	TENERA		E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	10,200.00	Dollars
Factors	1	BIO Engineer		85	dollars per hour		200	hours each		
	0.6	January 2000 Earned Value Factor								
	A52	TENERA		P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	3,600.00	Dollars
Factors	1	Procedure Writer		75	dollars per hour		80	hours		
	0.6	January 2000 Earned Value Factor								
Activity ID:	1DSBIRD150		Description: B776/777 Hard Side SRU Procedure Development				Cost Risk	4	Schedule Risk	5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
BIRD1501	Identify Work Steps	1.00	each	EE	189	189	3.885	0	0	3.885	1.896	5.781
BIRD1502	Hazards Identification/JHA	1.00	each	EE	120	120	2.467	15.300	0	17.767	1.204	18.971
BIRD1503	Draft Operations Procedure	1.00	each	EE	0	0	0	18.135	0	18.135	0	18.135
BIRD1505	Revise Operation Procedure	1.00	each	EE	0	0	0	4.388	0	4.388	0	4.388
BIRD1506	Prepare SES/USQD	1.00	each	EE	0	0	0	1.700	0	1.700	0	1.700
BIRD1508	Finalize Procedures	1.00	each	EE	0	0	0	3.803	0	3.803	0	3.803
Total for Activity 1DSBIRD150:						309	6.352	43.325	0	49.677	3.100	52.777

Line Item BIRD1501 - Identify Work Steps

BOE
Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 378 hrs, \$8k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 378 hrs, \$8k unburdened
Basis for adjustment - N/A

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	63.00	Hours
Factors	9	hours per day	1	RCT	14	days	0.5	January 2000	Earned Value Factor
750	STRAIGHT TIME BASE		T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	126.00	Hours
Factors	2	D&D Workers	9	hours each per day	14	days	0.5	January 2000	Earned Value Factor

Line Item BIRD1502 - Hazards Identification/JHA

BOE
Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Job Hazard Analysis

WBS No: 1DAF02
Activity ID: 1DSBIRD150

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 240 hrs, \$36k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 240 hrs, \$36k unburdened
Basis for adjustment - N/A

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KD10H	776 Complex Steelworkers	Linear	40.00 Hours
Factors	1	RCT	8 hours per day	10	days	0.5	January 2000 Earned Value Factor
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	80.00 Hours
Factors	2	D&D Workers	8 hours per day each	10	working days	0.5	January 2000 Earned Value Factor
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	8,500.00 Dollars
Factors	1		5 weeks each CSOL development	40	hours per week	85	dollars per hour
	1	Criticality Safety Engineers	0.5	January 2000 Earned Value Factor			
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	3,400.00 Dollars
Factors	40	hours per week	85	dollars per hour	1	Nuclear Safety Engineer	
	2	weeks review nuclear hazard controls	0.5	January 2000 Earned Value Factor			
A52	TENERA	P090	INDUSTRIAL HYGIENISTS	K399S	Building 776 Project	Linear	3,400.00 Dollars
Factors	1		1 Industrial Hygienist	8	hours per day	10	days
	85	dollars per hour	0.5	January 2000 Earned Value Factor			

Line Item BIRD1503 - Draft Operations Procedure

BOE	Estimators Experience - Randy Walker based on similar procedure development in B776/777 Experience Item Desc - Drafting operation procedures Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$18k unburdened Unit Cost Adjustment factor - None Revised Unit Cost - \$18k unburdened Basis for adjustment - N/A
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	18,135.00 Dollars
Factors	1	procedure writer	9 hours per day	31	working days	65	dollars per hour

Line Item BIRD1505 - Revise Operation Procedure

BOE	Estimators Experience - Randy Walker based on similar procedure development in B776/777 Experience Item Desc - First incorporation of comments into draft procedures Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$9k unburdened Unit Cost Adjustment factor - None Revised Unit Cost - \$9k unburdened Basis for adjustment - N/A
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	4,387.50 Dollars
Factors	1	Procedure Writer	9 hours per day	15	working days	65	dollars per hour
			0.5	January 2000 Earned Value Factor			

Line Item BIRD1506 - Prepare SES/USQD

BOE	Estimators Experience - Randy Walker based on similar procedure development in B776/777 Experience Item Desc - Perform USQD screen Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$3k unburdened Unit Cost Adjustment factor - None Revised Unit Cost - \$3k unburdened
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WBS No: 1DAF02
Activity ID: 1DSBIRD150

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter * Starts In FY *

Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	1.700.00	Dollars
Factors	1	Nuclear Engineer	40	hours	85	dollars per hour		
	0.5	January 2000 Earned Value Factor						

Line Item BIRD1508 - Finalize Procedures

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Incorporate comments and finalize procedures
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$8k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$8k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	3.802.50	Dollars
Factors	1	Procedure Writer	9	hours per day	13	working days	65	dollars per hour
	0.5	January 2000 Earned Value Factor						

Activity ID: 1DSBIRD160

Description: B776/777 Hard Side SRU (ITC) Training

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
BIRD1601	Training for Hard Side SRU	1.00	each	EE	1.440	1.440	35.582	0	0	35.582	17.364	52.947
BIRD1602	Develop Certification Requirements	1.00	each	EE	0	0	0	7.605	0	7.605	0	7.605
Total for Activity 1DSBIRD160:						1.440	35.582	7.605	0	43.187	17.364	60.552

Line Item BIRD1601 - Training for Hard Side SRU

BOE

Estimators Experience - Randy Walker based on experience from training to procedures in B776/777
Experience Item Desc - Training for HS-SRU Operation
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 1,440 hours, \$36k unburdened
Unit Cost Adjustment factor - Minimal
Revised Unit Cost - 1,440 hours, \$36k unburdened
Basis for adjustment -

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	960.00	Hours
Factors	40	hours each to train on operation of	4	Craft Personnel	6	weeks		
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	480.00	Hours
Factors	2	RCTs	40	hours each to train on the operation	6	weeks		

Line Item BIRD1602 - Develop Certification Requirements

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Develop Certification Requirements for Training operators to run the HS-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$8k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$8k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A52	TENERA	P150	TRAINERS	K399S	Building 776 Project	Linear	7.605.00	Dollars
Factors	1	Trainer	9	hours per day	13	working days	65	dollars per hour

Activity ID: 1DSBIRD170

Description: B776/777 Hard Side SRU IVR

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
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WBS No: 1DAF02
Activity ID: 1DSBIRD170

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

				Type	Hours/Unit	Total	Total	Activity Filter Cost	& Escalation	Cost	Starts In FY	
BIRD1701	Readiness Demonstration Preparation	1.00	each	EE	0	0	0	7.000	0	7.000	0	7.000
BIRD1702	Perform Readiness Demonstration	1.00	each	EE	0	0	0	20.000	0	20.000	0	20.000
BIRD1704	Perform Independent Validation Review	1.00	each	EE	0	0	0	20.000	0	20.000	0	20.000
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	2.408	2.408	0	2.408
Total for Activity 1DSBIRD170:						0	0	47.000	2.408	49.408	0	49.408

Line Item BIRD1701 - Readiness Demonstration Preparation

BOE
Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777
Experience Item Desc - Perform Readiness Demonstration preparation activities for HS-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$7k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$7k unburdened
Basis for adjustment - N/A

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	K399S	Building 776 Project	Linear	7.000.00	Dollars
Factors	1	Adminnistrative Assistant	5	weeks	40	hours to conduct management review	35	dollars per hour

Line Item BIRD1702 - Perform Readiness Demonstration

BOE
Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777
Experience Item Desc - Perform Readiness Demonstration for HS-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$20k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$20k unburdened
Basis for adjustment - N/A

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	20.000.00	Dollars
Factors	5	subcontracted evaluators	40	hours per week	1	week each		
	100	dollars per hour						

Line Item BIRD1704 - Perform Independent Validation Review

BOE
Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777
Experience Item Desc - Perform IVR for HS-SRU
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$20k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - \$20k unburdened
Basis for adjustment - N/A

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	20.000.00	Dollars
Factors	1	week each	100	dollars per hour	5	Subcontracted Evaluators	40	hours

Line Item SYS - Contingency And Escalation

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.431.47	Dollars
Factors	1431.47	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	976.95	Dollars
Factors	976.945	Dollars						

Activity ID: 1DSBIRD210 Description: FY01 ITC Operations

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
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WBS No: 1DAF02
Activity ID: 1DSBIRD210

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF

			Type	Hours/Unit	Total	Total	Activity Filter	* Cost	& Escalation	Cost	Starts In FY	*
ITC2001	FY01 ITC Operations	1.00	each	HC	25.344	25.344	611.217	275.350	0	886.567	291.550	1.178.117
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	64.160	64.160	0	64.160
Total for Activity 1DSBIRD210:						25.344	611.217	275.350	64.160	950.726	291.550	1.242.277

Line Item ITC2001 - FY01 ITC Operations

BOE ITC operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Resources

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	1.728.00	Hours
Factors 1 Foreman	9 hours	192 days			
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLOGI	KD10H 776 Complex Steelworkers	Linear	3.456.00	Hours
Factors 2 RCTs	9 hours	192 days			
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED	KD10H 776 Complex Steelworkers	Linear	6.912.00	Hours
Factors 4 D&D Skilled Workers	9 hours	192 days			
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED	KD10H 776 Complex Steelworkers	Linear	6.912.00	Hours
Factors 4 D&D Hazardous Reduction	9 hours	192 days			
751 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	576.00	Hours
Factors 1 Foreman	3 hours	192 days			
751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLOGI	KD10H 776 Complex Steelworkers	Linear	1.152.00	Hours
Factors 2 total RCT hours	3 hours	192 days			
751 OVERTIME BASE & PRE.	T060 D&D HAZ REDUC TECH / RISK RED	KD10H 776 Complex Steelworkers	Linear	4.608.00	Hours
Factors 8 total D&D workers hours	3 hours	192 days			
A5C SUPPLIES	0000 NONE	K399S Building 776 Project	Linear	175.350.00	Dollars
Factors 1169000 Operational cost	0.15 15% supplies				
A5H SUBCONTRACTED SRVS	0000 NONE	K399S Building 776 Project	Linear	100.000.00	Dollars
Factors 100000 Annual Maintenance					

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element	Skill	Department	Curve	Quantity	Units
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	39.386.50	Dollars
Factors 39386.5 Dollars					
ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	24.773.17	Dollars
Factors 24773.2 Dollars					

Activity ID: 1DSBIRD220

Description: FY02 ITC Operations

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
ITC2002	FY02 ITC Operations	1.00	each	HC	19.008	19.008	458.412	237.100	0	695.512	161.820	857.332
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	132.265	132.265	0	132.265
Total for Activity 1DSBIRD220:						19.008	458.412	237.100	132.265	827.777	161.820	989.597

Line Item ITC2002 - FY02 ITC Operations

BOE ITC operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Resources

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	1.296.00	Hours
Factors 1 Foreman	9 hours	192 days	0.75 efficiency gained in thermal cutting		
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLOGI	KD10H 776 Complex Steelworkers	Linear	2.592.00	Hours
Factors 2 RCTs	9 hours	192 days	0.75 efficiency gained in thermal cutting		

WBS No: 1DAF02
Activity ID: 1DSBIRD220

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	5,184.00	Hours
Factors	4	D&D Skilled Workers	9	hours	192	days	0.75	efficiency gained in thermal cutting
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	5,184.00	Hours
Factors	4	D&D Hazardous Reduction	9	hours	192	days	0.75	efficiency gained in thermal cutting
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	432.00	Hours
Factors	1	Foreman	3	hours	192	days	0.75	efficiency gained in thermal cutting
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	864.00	Hours
Factors	2	total RCT hours	3	hours	192	days	0.75	efficiency gained in thermal cutting
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	3,456.00	Hours
Factors	8	total D&D workers hours	3	hours	192	days	0.75	efficiency gained in thermal cutting
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	137,100.00	Dollars
Factors	914000	Operational cost	0.15	15% supplies				
A5H	SUBCONTRACTED SRVS	0000	NONE	K399S	Building 776 Project	Linear	100,000.00	Dollars
Factors	100000	Annual Maintenance						

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	92,200.62	Dollars
Factors	92200.6 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	40,064.36	Dollars
Factors	40064.4 Dollars							

Activity ID: 1DSBIRD230 Description: FY03 ITC Operations

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
ITC2003	FY03 ITC Operations	1.00	each	HC	19,008	19,008	458,412	242,200	0	700,612	158,611	859,223
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	245,668	245,668	0	245,668
Total for Activity 1DSBIRD230:						19,008	458,412	242,200	245,668	946,280	158,611	1,104,891

Line Item ITC2003 - FY03 ITC Operations

BOE

ITC operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Resources

Cost Element			Skill		Department		Curve	Quantity	Units	
750	STRAIGHT TIME BASE		M010	FOREMEN / TEAM LEADS / GROUP		R100S	RMRS Salaried	Linear	1,296.00	Hours
Factors	1	Foreman	9 hours		192 days		0.75 efficiency gained through thermal			
750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI		KD10H	776 Complex Steelworkers	Linear	2,592.00	Hours
Factors	2	RCTs	9 hours		192 days		0.75 efficiency gained through thermal			
750	STRAIGHT TIME BASE		T060	D&D HAZ REDUC TECH / RISK RED		KD10H	776 Complex Steelworkers	Linear	5,184.00	Hours
Factors	4	D&D Skilled Workers	9 hours		192 days		0.75 efficiency gained through thermal			
750	STRAIGHT TIME BASE		T060	D&D HAZ REDUC TECH / RISK RED		KD10H	776 Complex Steelworkers	Linear	5,184.00	Hours
Factors	4	D&D Hazardous Reduction	9 hours		192 days		0.75 efficiency gained through thermal			
751	OVERTIME BASE & PRE.		M010	FOREMEN / TEAM LEADS / GROUP		R100S	RMRS Salaried	Linear	432.00	Hours
Factors	1	Foreman	3 hours		192 days		0.75 efficiency gained through thermal			
751	OVERTIME BASE & PRE.		T050	RADIATION CONTROL TECHNOLOGI		KD10H	776 Complex Steelworkers	Linear	864.00	Hours
Factors	2	total RCT hours	3 hours		192 days		0.75 efficiency gained through thermal			
751	OVERTIME BASE & PRE.		T060	D&D HAZ REDUC TECH / RISK RED		KD10H	776 Complex Steelworkers	Linear	3,456.00	Hours
Factors	8	total D&D workers hours	3 hours		192 days		0.75 efficiency gained through thermal			
A5C	SUPPLIES		0000	NONE		K399S	Building 776 Project	Linear	142,200.00	Dollars
Factors	948000	Operational cost	0.15 15% supplies							
A5H	SUBCONTRACTED SRVS		0000	NONE		K399S	Building 776 Project	Linear	100,000.00	Dollars
Factors	100000	Annual Maintenance								

WBS No: 1DAF02
Activity ID: 1DSBIRD20

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

Line Item SYS - Contingency And Escalation

BOE

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	179.778.10 Dollars
Factors		179778 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	65.889.76 Dollars
Factors		65889.8 Dollars					

Activity ID: 1DXXXBIRD4 Description: FY04 ITC Operations

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
ITC2003	FY03 ITC Operations	0.88	each	HC	19.008	16.674	402.116	212.456	0	614.572	113.397	727.969
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	106.428	106.428	0	106.428
Total for Activity 1DXXXBIRD4:						16.674	402.116	212.456	106.428	721.000	113.397	834.397

Line Item ITC2003 - FY03 ITC Operations

BOE

ITC operations will run 12 hours per day. Normal ITC Operations assumes a 13 person crew as outlined below:
2 RCTs
8 D&D workers
2 Waste Inspectors
1 Foreman

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	1.296.00 Hours
Factors		1 Foreman 9 hours 192 days 0.75 efficiency gained through thermal					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	2.592.00 Hours
Factors		2 RCTs 9 hours 192 days 0.75 efficiency gained through thermal					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	5.184.00 Hours
Factors		4 D&D Skilled Workers 9 hours 192 days 0.75 efficiency gained through thermal					
750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	5.184.00 Hours
Factors		4 D&D Hazardous Reduction 9 hours 192 days 0.75 efficiency gained through thermal					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	432.00 Hours
Factors		1 Foreman 3 hours 192 days 0.75 efficiency gained through thermal					
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	864.00 Hours
Factors		2 total RCT hours 3 hours 192 days 0.75 efficiency gained through thermal					
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	3.456.00 Hours
Factors		8 total D&D workers hours 3 hours 192 days 0.75 efficiency gained through thermal					
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	142.200.00 Dollars
Factors		948000 Operational cost 0.15 15% supplies					
A5H	SUBCONTRACTED SRVS	0000	NONE	K399S	Building 776 Project	Linear	100.000.00 Dollars
Factors		100000 Annual Maintenance					

Line Item SYS - Contingency And Escalation

BOE

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	36.530.75 Dollars
Factors		36530.8 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	69.896.88 Dollars
Factors		69896.9 Dollars					

WBS No: 1DAF03 Title: Miscellaneous Technology Demonstra

Activity ID: 1DSTECH100 Description: B776/777 Technology Demo SRU Project Mamt

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.851	3.851	0	3.851
TECH1001	Project Management for HSSRU	1.00	each	EE	0	0	0	70.720	0	70.720	0	70.720
Total for Activity 1DSTECH100:						0	0	70.720	3.851	74.571	0	74.571

WBS No: 1DAF03
Activity ID: 1DSTECH100

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

Line Item SYS - Contingency And Escalation

BOE

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,364.29 Dollars
Factors		2364.29 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,487.08 Dollars
Factors		1487.08 Dollars					

Line Item TECH1001 - Project Management for HSSRU

BOE

Estimators Experience - Randy Walker on previous conceptual engineering activities in B776/777
Experience Item Desc - Project Management for Technology Demonstrations in B776/777
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$71k
Unit Cost Adjustment factor - None
Revised Unit Cost - \$71k
Basis for adjustment - N/A

Resources	Cost Element			Skill		Department		Curve	Quantity	Units	
	A52	TENERA		E040	ELECTRICAL ENGINEERS	K399S	Building 776 Project	Linear	9,180.00	Dollars	
	Factors	1	electrical engineer	85	dollars per hour Tenera	12	working days	9	hours per day		
	A52	TENERA		E070	MECHANICAL ENGINEERS	K399S	Building 776 Project	Linear	9,180.00	Dollars	
	Factors	1	mechanical engineer	85	dollars per hour Tenera	12	working days	9	hours per day		
	A52	TENERA		E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	34,000.00	Dollars	
	Factors	1	Technical Support Person	8	AWS working days	5	days per week	85	dollars per hour Tenera		
		10	weeks total in FY-00								
	A52	TENERA		E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	18,360.00	Dollars	
	Factors	2	Fire Protection Engineer/HVAC	85	dollars per hour Tenera	12	working days	9	hours per day		

Activity ID: 1DSTECH110 Description: B776/777 Facility Mods for Technology Demo

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	6,269	6,269	0	6,269
TECH1101	IWCP Development for Technology Demonstration	1.00	each	EE	160	160	3,390	43,400	0	46,790	1,617	48,408
TECH1102	HVAC Modifications	1.00	each	EE	160	160	3,320	18,000	0	21,320	1,584	22,904
TECH1103	Perform Misc. Modifications	1.00	each	EE	320	320	6,640	34,000	0	40,640	3,167	43,807
Total for Activity 1DSTECH110:						640	13,350	95,400	6,269	115,020	6,368	121,388

Line Item SYS - Contingency And Escalation

BOE

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3,848.61 Dollars
Factors		3848.61 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2,420.69 Dollars
Factors		2420.69 Dollars					

Line Item TECH1101 - IWCP Development for Technology Demonstration

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - IWCP Development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 160 hours, \$47k unburdened
Unit Cost Adjustment factor - none
Revised Unit Cost - 160 hours, \$47k unburdened
Basis for adjustment -N/A

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1DAF03
Activity ID: 1DSTECH110

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

750	STRAIGHT TIME BASE	C020	ELECTRICIANS	C211S	Electrical Maintenance	Linear	80.00	Hours
Factors	2	Electricians	40	hours each				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	80.00	Hours
Factors	2	RCTs	40	hours each				
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	17.000.00	Dollars
Factors	200	hours 80 nuc safety and 120 hrs crit	85	dollars per hour TENERA				
A52	TENERA	P070	COST ESTIMATORS PLANNERS AN	K399S	Building 776 Project	Linear	15.600.00	Dollars
Factors	1	IWCP Planner	40	hours per week	6	weeks	65	dollars per hour TENERA
A52	TENERA	P090	INDUSTRIAL HYGIENISTS	K399S	Building 776 Project	Linear	6.800.00	Dollars
Factors	80	hours	85	dollars per hour				
A5H	SUBCONTRACTED SRVS	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	4.000.00	Dollars
Factors	2	Craft support	40	hours each	50	dollars per hour		

Line Item TECH1102 - HVAC Modifications

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - Implement IWCP Modification Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 160 hours, \$21k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 160 hours, \$21k unburdened
Basis for adjustment - N/A

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	160.00	Hours
Factors	2	weeks each	2	RCTs	40	hours per week			
A5C	SUPPLIES		0000	NONE	K399S	Building 776 Project	Linear	2.000.00	Dollars
Factors	2000	dollars supplies and equipment							
A5H	SUBCONTRACTED SRVS		T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	16.000.00	Dollars
Factors	4	D&D Craft Support	2	weeks each	40	hours per week	50	dollars per hour	

Line Item TECH1103 - Perform Misc Modifications

BOE

Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777
Experience Item Desc - Implement IWCP Modification Package
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 320 hours, \$41k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 320 hours, \$41k unburdened
Basis for adjustment - N/A

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	320.00	Hours
Factors	2	RCTs	40	hours per week	4	weeks each		
A5C	SUPPLIES	0000	NONE	K399S	Building 776 Project	Linear	2.000.00	Dollars
Factors	1		2000	supplies and equipment				
A5H	SUBCONTRACTED SRVS	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	32.000.00	Dollars
Factors	1		4	D&D Workers	40	hours each per week	4	weeks
	50							dollars per hour

Activity ID: 1DSTECH120 Description: B776/777 Technology Demonstration Procurement

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.723	2.723	0	2.723
TECH1201	Procure Technology Demonstration Vendor	1.00	each	EE	0	0	0	50.000	0	50.000	0	50.000
Total for Activity 1DSTECH120:						0	0	50.000	2.723	52.723	0	52.723

Line Item SYS - Contingency And Escalation

BOE

WBS No: 1DAF03
Activity ID: 1DSTECH120

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	1.671.59	Dollars
Factors		1671.59 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT No Department	Linear	1.051.39	Dollars
Factors		1051.39 Dollars					

Line Item TECH1201 - Procure Technology Demonstration Vendor

BOE	Estimators Experience - Randy Walker estimate based on prior quotes for sixe reduction and D&D toolong demonstrations. Experience Item Desc - Procure Vendor for Technology Demonstration Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$50k Unit Cost Adjustment factor None Revised Unit Cost - \$50k Basis for adjustment - N/A
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	K399S Building 776 Project	Linear	50.000.00	Dollars
Factors		50000 Technology Demonstration Vendor					

Activity ID: 1DSTECH130 Description: B776/777 Technology Demonstration BIO Update

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	790	790	0	790
TECH1301	BIO Revisions	1.00	each	EE	0	0	0	14.500	0	14.500	0	14.500
Total for Activity 1DSTECH130:						0	0	14.500	790	15.290	0	15.290

Line Item SYS - Contingency And Escalation

BOE										
Resources										
	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department		Linear	484.76 Dollars
	Factors		484.760 Dollars							
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department		Linear	304.90 Dollars
Factors		304.903 Dollars								

Line Item TECH1301 - BIO Revisions

BOE	Estimators Experience - Randy Walker on maintenance IWCP packages in B776/777 Experience Item Desc - BIO Page Change for Technology demonstration Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$15k unburdened Unit Cost Adjustment factor - none Revised Unit Cost - \$15k unburdened Basis for adjustment - N/A
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S Building 776 Project	Linear	8.500.00	Dollars
Factors		1 BIO Engineer 85 dollars per hour 100 hours					
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S Building 776 Project	Linear	6.000.00	Dollars
Factors		1 Procedure Writer 80 hours 75 dollars per hour					

Activity ID: 1DSTECH140 Description: B776/777 Technology Demo Procedure Development

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.562	2.562	0	2.562
TECH1401	Identify Work Steps	1.00	each	EE	120	120	2.467	0	0	2.467	1.177	3.643
TECH1402	Hazards Identification/JHA	1.00	each	EE	120	120	2.467	14.960	0	17.427	1.177	18.603
TECH1403	Draft Operations Procedure	1.00	each	EE	0	0	0	5.200	0	5.200	0	5.200

WBS No: 1DAF03
Activity ID: 1DSTECH140

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

Starts In FY *

TECH1405	Revise Operation Procedure	1.00	each	EE	0	0	0	5.200	0	5.200	0	5.200
TECH1406	Prepare SES/USQD	1.00	each	EE	0	0	0	6.800	0	6.800	0	6.800
TECH1408	Finalize Procedures	1.00	each	EE	0	0	0	7.605	0	7.605	0	7.605
Total for Activity 1DSTECH140:						240	4.934	39.765	2.562	47.261	2.353	49.614

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.573.03	Dollars
	Factors 1573.03 Dollars								
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	989.40	Dollars
	Factors 989.397 Dollars								

Line Item TECH1401 - Identify Work Steps

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Activity screen and work step development
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 120 hrs, \$2k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 120 hrs, \$2k unburdened
Basis for adjustment - N/A

Resources		Cost Element		Skill		Department		Curve	Quantity	Units
750		STRAIGHT TIME BASE		T050 RADIATION CONTROL TECHNOLOGI		KD10H 776 Complex Steelworkers		Linear	40.00	Hours
Factors		1 RCT		8 hours per day		5 days				
750		STRAIGHT TIME BASE		T060 D&D HAZ REDUC TECH / RISK RED		KD10H 776 Complex Steelworkers		Linear	80.00	Hours
Factors		2 D&D Workers		8 hours each per day		5 days				

Line Item TECH1402 - Hazards Identification/JHA

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Job Hazard Analysis
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 120 hrs, \$17k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 120 hrs, \$17k unburdened
Basis for adjustment - N/A

Resources		Cost Element		Skill		Department		Curve	Quantity	Units
750		STRAIGHT TIME BASE		T050 RADIATION CONTROL TECHNOLOGI		KD10H 776 Complex Steelworkers		Linear	40.00	Hours
Factors		1 RCT		8 hours per day		5 days				
750		STRAIGHT TIME BASE		T060 D&D HAZ REDUC TECH / RISK RED		KD10H 776 Complex Steelworkers		Linear	80.00	Hours
Factors		2 D&D Workers		8 hours per day each		5 working days				
A52		TENERA		E080 NUCLEAR (CRITICALITY) ENGINEER		K399S Building 776 Project		Linear	8.160.00	Dollars
Factors		85 dollars per hour		1 Criticality Safety Engineers		12 days each CSOL development		8 hours per day		
A52		TENERA		E080 NUCLEAR (CRITICALITY) ENGINEER		K399S Building 776 Project		Linear	3.400.00	Dollars
Factors		1 Nuclear Safety Engineer		40 hours per week		85 dollars per hour		1 week review nuclear hazard controls		
A52		TENERA		P090 INDUSTRIAL HYGIENISTS		K399S Building 776 Project		Linear	3.400.00	Dollars
Factors		1 Industrial Hygienist		8 hours per day		85 dollars per hour		5 days		

Line Item TECH1403 - Draft Operations Procedure

BOE

Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Draft operations procedure for demonstration
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$5k unburdened
Unit Cost Adjustment factor - None

WBS No: 1DAF03
Activity ID: 1DSTECH140

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter * Starts In FY *

Revised Unit Cost - \$5k unburdened
Basis for adjustment - N/A

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	5,200.00Dollars
Factors	1	procedure writer	65	dollars per hour	40	hours per week	2 weeks

Line Item TECH1405 - Revise Operation Procedure

BOE
Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - First revision and comment incorporation
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$5k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$5k unburdened
Basis for adjustment - N/A

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	5,200.00Dollars
Factors	65	dollars per hour	2	weeks	1	Procedure Writer	40 hours per week

Line Item TECH1406 - Prepare SES/USQD

BOE
Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Prepare safety screen and USQ determination
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - 378 hrs, \$7k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - 378 hrs, \$7k unburdened
Basis for adjustment - N/A

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	E080	NUCLEAR (CRITICALITY) ENGINEER	K399S	Building 776 Project	Linear	6,800.00Dollars
Factors	1	Nuclear Engineer	40	hours per week	85	dollars per hour	
	2	weeks					

Line Item TECH1408 - Finalize Procedures

BOE
Estimators Experience - Randy Walker based on similar procedure development in B776/777
Experience Item Desc - Incorporate final comments into the procedure
Breakdown of Cost Data:
Item - 1
Units - Lot
Unit Cost - \$8k unburdened
Unit Cost Adjustment factor - None
Revised Unit Cost - \$8k unburdened
Basis for adjustment - N/A

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A52	TENERA	P160	TECHNICAL WRITERS AND EDITOR	K399S	Building 776 Project	Linear	7,605.00Dollars
Factors	9	hours per day	65	dollars per hour	1	Procedure Writer	13 working days

Activity ID: 1DSTECH150 Description: B776/777 Technology Demonstration Training

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	653	653	0	653
TECH1501	Training for Technology Demo Implementation	1.00	each	EE	120	120	2,965	0	0	2,965	1,414	4,380
TECH1502	Develop Certification Requirements	1.00	each	EE	0	0	0	7,605	0	7,605	0	7,605
Total for Activity 1DSTECH150:						120	2,965	7,605	653	11,223	1,414	12,637

Line Item SYS - Contingency And Escalation

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1DAF03
Activity ID: 1DSTECH150

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter *

CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	400.67	Dollars
Factors 400.666 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	252.01	Dollars
Factors 252.009 Dollars								

Line Item TECH1501 - Training for Technology Demo Implementation

BOE	Estimators Experience - Randy Walker based on experience from training to procedures in B776/777 Experience Item Desc - Training for Technology Demonstration Operation Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - 120 hours, \$3k unburdened Unit Cost Adjustment factor - none Revised Unit Cost - 120 hours, \$3k unburdened Basis for adjustment -							
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KD10H	776 Complex Steelworkers	Linear	80.00	Hours
	Factors	2	Craft Personnel	40	hours each to train on operation of	1	week		
	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLOGI	KD10H	776 Complex Steelworkers	Linear	40.00	Hours
	Factors	1	RCTs	40	hours each to train on the operation	1	week		

Line Item TECH1502 - Develop Certification Requirements

BOE	Estimators Experience - Randy Walker based on similar procedure development in B776/777 Experience Item Desc - Develop Certification Requirements for Training operators in the techniques and tools demonstrated Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$8k unburdened Unit Cost Adjustment factor - None Revised Unit Cost - \$8k unburdened Basis for adjustment - N/A							
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A52	TENERA	P150	TRAINERS	K399S	Building 776 Project	Linear	7.605.00	Dollars
	Factors	1	Trainer	13	working days		9	hours per day	
		65	dollars per hour						

Activity ID: 1DSTECH160 Description: B776/777 Technology Demonstration Readiness Demo

Cost Risk 4 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1,470	1,470	0	1,470
TECH1601	Readiness Demonstration Preparation	1.00	each	EE	0	0	0	7,000	0	7,000	0	7,000
TECH1602	Perform Readiness Demonstration	1.00	each	EE	0	0	0	20,000	0	20,000	0	20,000
Total for Activity 1DSTECH160:						0	0	27,000	1,470	28,470	0	28,470

Line Item SYS - Contingency And Escalation

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	902.66	Dollars
	Factors 902.657 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	567.75	Dollars
	Factors 567.75 Dollars									

Line Item TECH1601 - Readiness Demonstration Preparation

BOE	Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777 Experience Item Desc - Perform Readiness Demonstration preparation activities for the Technology Demonstration Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$7k unburdened Unit Cost Adjustment factor - none							
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WBS No: 1DAF03
Activity ID: 1DSTECH160

Rockv Flats Closure Proiect
Baseline Cost and Basis of Estimate

Project Baseline Devl
WBS Filter 1DAF
Activity Filter * Starts In FY *

Revised Unit Cost - \$7k unburdened Basis for adjustment - N/A					
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	K399S	Building 776 Proiect	Linear	7.000.00	Dollars
	Factors	40	hours to conduct management review	1	Admimnistrative Assistant	35	dollars per hour	5	weeks

Line Item TECH1602 - Perform Readiness Demonstration

BOE	Estimators Experience - Randy Walker based on similar Readiness demonstrations in B776/777 Experience Item Desc - Perform Readiness Demonstration for Technology Demo Breakdown of Cost Data: Item - 1 Units - Lot Unit Cost - \$20k unburdened Unit Cost Adjustment factor - none Revised Unit Cost - \$20k unburdened Basis for adjustment - N/A								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	E130	OTHER ENGINEERS	K399S	Building 776 Project	Linear	20,000.00	Dollars
	Factors	5 subcontracted evaluators	1	week each	40	hours per week	100	dollars per hour	

Report Totals:

Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
Total	Total	Cost	& Escalation	Cost		
162.961	3.912.708	5.647.004	1.383.816	10.943.528	1.412.162	12.355.691